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ABSTRACT

To determine more rational and economical methods for serving the information needs of the public, a series of studies have been sponsored by the Association of Research Libraries. Libraries in the United States are characterized as independent agencies supported from governmental and private sources and serving a local clientele. Steadily rising costs of operation associated with population growth, increased publishing rates, higher wages, and other factors have led to reduced quality of services. Efforts to share costs through interlibrary loan and other cooperative arrangements have only partially alleviated the financial problems and have done little to improve the quality of services. The ultimate solution is seen as a more systematic national approach designed to optimize available resources in order to achieve more rationally defined goals. There remain a number of unresolved questions concerning the configuration of national resource collections, bibliographic organization and access, communation and delivery methods, and coordinating mechanisms. A strong leadership role by the Federal Government seems mandatory for establishing and maintaing a comprehensive, higher quality information service. (Author/PF)

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TOWARD A NATIONAL INFORMATION SYSTEM IN THE UNITED STATES

Stanley McElderry

The dominant characteristic of the information system in the United States is diversity. There is no national system of the kind that exists in most nations. Rather, it is the responsibility of the local community to support schools, libraries, and other cultural institutions. The states and the federal government have played an increasing role in these areas, but their primary purposes have been to equalize opportunity and to improve standards of quality. They have showed little desire to develop a unified service or to establish an integrated governing structure. Consequently every level of government supports libraries having different clienteles and different functions. There are also many libraries of all types supported by private institutions, industrial firms, and professional associations. Some bibliographic and support services are offered on a commercial basis as well as by libraries supported by governmental agencies. Coordination among libraries is primarily voluntary but in some instances is formalized by contractual arrangements.

The exchange of informational materials through interlibrary loan is a practice of long standing in the United States for all types of libraries. Over a long period it has been a reasonably effective, if cumbersome, means for supplementing the resources of individual libraries. Although almost all libraries have been locally supported and have acquired the resources needed to serve the specialized interests of their primary clienteles, their combined collective efforts have more or less fortuitously met most needs of readers on a national basis.

It has become increasingly evident that the present uncoordinated approach to providing information services is inefficient and only partially effective. Some communities and institutions have comparatively adequate resources while others have merely limited access to information. Not only are existing resources unevenly distributed, they are not effectively utilized. In an effort to be as self sufficient as possible, some

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libraries acquire and catalog materials that they know will be very infrequently used. In doing so they wastefully duplicate expenditures for acquisition, cataloging and storage that other libraries in the area have made for the same materials. The situation has become increasingly actue as the number and cost of new publications have increased rapidly while the population to be served has grown larger and demands a higher quality of service. Current inflationary rates make it clear that libraries must coordinate their efforts to maintain comprehensive access to information and to share resources effectively. These problems have received increasing attention in academic and research libraries through the Association for Research Libraries, and through the National Commission for Library and Information Science which has been formulating proposals to address the needs of all types of libraries.

Having thus very briefly described the situation now existing in the United States, I should like to go on to review the studies on interlibrary loan conducted under the auspices of the Association for Research Libraries, to assess the proposals which have been recommended, and to discuss some of the unresolved issues. The objective of this discussion will be to assess the feasibility and possible configuration of a national access system to information in the United States.

INTERLIBRARY LOAN STUDIES

The declining level of acquisitions budgets in academic and research libraries beginning in the late 1960's, coupled with an increasing rate of inflation and a rising demand for interlibrary loans, prompted a systematic investigation of interlibrary loan practices. The initial study was conducted by Westat Inc. under a grant to the Association of Research Libraries by the National Science Foundation. The purpose of the study was to determine the magnitude, characteristics, and costs of interlibrary loans among academic libraries in the United States as a base for developing an improved, adequate, and more equitable system. This study was published in 1972 and is summarized as follows:

> The principal findings were correlated with other studies of interlibrary loans among types of libraries, in specific

subject fields or within specific geographic areas. The number of transactions derived from the sample was adjusted to 1969-70 estimates on an institutional basis and projected to national totals of comparable institutions. The total number of transactions was estimated at 3,383,000 with two-thirds representing loan requests and the balance requests to borrow. Interlibrary loan requests have doubled in the five-year period since 1965/66 and are expected to increase another 50 percent by 1974/75.

Other findings indicated that the majority of requests originate within the same region, with two-thirds originating in the same state; that the majority of loan requests are from other academic libraries; and that the large libraries provide over 70 percent of the loans.

The characteristics of interlibrary loan transactions were identified by subject, date of publication, language, and form of publication. Many of the findings tend to correlate closely with earlier studies of library use. The largest number of transactions are in science and technology (40.38 percent), followed by the humanities (26.59 percent), social sciences (20.83 percent), and all other areas (12.18 percent). Transactions in science and technology are concentrated in the last ten years of publication date, whereas the social sciences have a longer date span and approximately half of the humanities transactions fall in the 1900-1960 date category. English is the predominant language of interlibrary loan requests accounting for nearly 90 percent of the requests in all subjects except the humanities. Approximately 20 percent of the requests in the latter field are for foreign-language materials with French, German, and Spanish being the more popular languages. Form of publication was defined by the categories periodical (including all serials), monograph, thesis and dissertation, and others. Periodicals accounted for over half the transactions, and over half of these were in the science and technology area. A high proportion of the transactions in the humanities were for monographic material. Date of publication and language did not appear to be significant variables with respect to form of publication.

Analysis of success rate and time of response indicated that the majority of requests are filled and that the major cause of failure was that the item was not owned. The majority of requests are filled with the original material. Periodicals, however, are supplied primarily by photocopy, which is provided more quickly than titles supplied in original format.

The focal point of the study was the cost of interlibrary loan transactions. In view of the budget limitations for the study, the analysis was confined to a subsample of the largest libraries only -- twelve of the forty-five largest libraries in the original sample of eight libraries. The costs included in the study were the direct or marginal costs plus an estimated library overhead cost of 50 percent. No attempt was made to include costs of acquiring and maintaining the collection, because of the

complexity of accurate determination of such costs and budgetary limitations of the investigation.

> Analysis of the projected costs indicated that the gross cost per transaction was $6.39, the cost per lending transaction was $5.82, the cost per borrowing transaction was $7.61, and the cost per unfilled transaction was $2.12, whereas that for a filled request was $4.67 per transaction. Variation in costs were noted between main and branch libraries and among individual sample libraries. There were wide variations in unit costs for filled and unfilled requests in the subsample libraries, but geographical location was the only significant variable identified.[1]

The Westat study summarized above created concern among librarians that continuing to serve the increasing volume of interlibrary loans would lead to a transaction fee to recover costs or threaten the ability of some libraries to continue comprehensive collection development in special fields. In follow-on studies by the Association of Research Libraries, again supported by the National Science Foundation, two avenues of relief were explored. The first survey, again conducted by Westat, Inc., investigated methods of financing interlibrary loan services as a means of immediate relief for the larger "net lending" libraries. Additional investigations, to be discussed later, explored longer-range approaches to a more efficient national interlibrary loan system. The objective of the study on financing interlibrary loans is stated as follows:

> In order to meet head-on a possible impending crisis in the financial bases of the interlibrary loan (ILL) system, the Association of Research Libraries (ARL) sponsored this study with support from the National Science Foundation to investigate and make recommendations for improved and economically viable methods of financing an interlibrary loan system for academic libraries. The study was to focus on physical access to materials via the interlibrary system and to suggest alternative means for establishing the present interlibrary loan system on a sounder basis with particular attention to the mechanics and implications of a suitable fee system. Recommendations were to be made which, if adopted and implemented, would result in immediate improvements to the present system. These recommendations will include the description of procedures for financing the ILL system along with the estimated impact of such a plan upon the current

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[1] Stanley McElderry, Review of A Study of the Characteristics, Costs, and Magnitude of Interlibrary Loans in Academic Libraries, by Association of Research Libraries, Library Quarterly 44 (January 1974), 67-69.

system.

> The scope of the study was to be limited to changes which affected the distribution of loans at the national level. The magnitude of lending at the national level was available in terms of loans which cross state boundaries. Consideration was to be given to restrictions at the national level which would encourage borrowing within state or regional boundaries.[2]

The recommendations of the study for financing interlibrary loans are summarized in these terms:

> Various means for financing interlibrary loans were investigated. Four possible fee structures emerged as the best options for detailed study. These options included: (1) a full cost recovery fee system, using coupons with a uniform fee that all libraries could adopt; (2) a full cost recovery fee system, using credit cards with a uniform fee; (3) a partial cost recovery fee system making use of coupons with only the net lenders charging a uniform fee; (4) a variable charge established by each library to recover its costs, using credit cards for payment purposes. Each of these would lead to a more equitable sharing of ILL costs than does the present system. Anticipated implications of each option are presented.
>
> The recommended fee structure is one that, initially, would only recover partial costs for the lending library. It would utilize coupons sold and redeemed by a central clearinghouse. Borrowing libraries would remit one coupon with each interlibrary loan request to a participating library and the coupon would be returned if the request was not filled. It is suggested that the value of the coupon for any item loaned be set initially at $3.50, or one-half the estimated average lending cost, and adjusted yearly as determined appropriate by an advisory committee. Provision of photocopies could also be included in the fee system with a suggested coupon value of $3.50 for the first ten pages and $1.50 for each additional ten pages. The fee could be adjusted upwards over a specified period of time to that of a full cost recovery system.
>
> Adoption of a fee system to provide more equitable sharing of the costs of interlibrary loan is viewed as a short-term alternative to improvement of the present system. In the long-run, state or federal subsidies should replace the need for fees. The perspective taken in this study is that of an individual library manager. A library manager makes decisions that satisfy, primarily, the needs of the parent institution. Consequently,

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[2] Vernon E. Palmour, Edwin E. Olson, Nancy K. Roderer, Methods of Financing Interlibrary Loan Services. Prepared for the Association of Research Libraries (Rockville, Md.: Westat, Inc., February 1974).

> the best solution is of a local nature and provides for recovery of full costs for providing loan services. From a national perspective, the interlibrary loan system may be viewed differently with broader goals.[3]

A fee for interlibrary loan transactions is widely opposed among librarians especially in the public library sector. Although they acknowledge the financial burden which some libraries face in continuing the present system, they see governmental subsidy as the acceptable alternative. The latter approach has been taken in New York, New Jersey, Illinois, and other states. The fee -- admittedly a stop-gap measure -- is favored primarily by the large private academic and research libraries which presently have no way to absorb the cost except at the expense of their own clientele. The issue is yet to be resolved.

In conjunction with the study on methods of financing interlibrary loans, Westat, Inc. also explored the feasibility of a national periodical resource center. The abstract of their report states:

> The purpose of this study was to develop, evaluate, and recommend a national plan for improving access to periodical resources. About 48 percent of all academic interlibrary loans are for periodical materials, with the bulk of the loans being satisfied in the form of photocopies. A major consideration in the long-range improvement of the interlibrary loan system is the possible augmentation with a national system for acquiring, storing and satisfying loan requests for periodical materials.
>
> This study focused on the physical access to the periodical literature. Based on the needs of the library community, design features were developed, and included the following:
>
> - Service should be made available to all users without any restriction other than access through a library.
>
> - Initially, the service should be confined primarily to rapid, dependable delivery of photocopies of journal articles.
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> - The collection of a center should be comprehensive in subject coverage excluding only medicine.
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> - All worthwhile journals should be collected irrespective of

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[3] Ibid.

language.

> Three basic configurations were developed and evaluated for the national periodicals system: (1) a single new facility with a comprehensive collection, National Periodical Resources Center, (2) a new multi-location national system based on a number of satellite resource centers with dedicated collections of the most heavily used titles, and a single new national center serving as the major resource in the system, and (3) a regional resource network based on designated existing library collections. The first configuration is essentially the British model of the National Lending Library for Science and Technology. Both regional models have certain features in common with the Regional Medical Library Program of the National Library of Medicine.
>
> Demand estimates were projected for each alternative configuration, as well as the total potential national demand for periodical materials. Cost estimates were developed for each configuration for a ten-year period. Based on the projected costs and satisfied demand, the alternatives were compared.
>
> Based on the analysis of costs and other factors, a single national center appeared to offer the best solution over the long run. It is recommended that a National Periodical Resources Center with a comprehensive collection be developed to improve access to the periodical literature. Various strategies on the implementation of such a system are presented.[4]

The proposed National Periodical Resource Center is patterned after the British National Lending Library and would constitute a new capability in the United States to respond to informational needs.

A third interlibrary loan study, conducted concurrently with the two Westat studies previously reviewed, examined an improved method for communicating interlibrary loan requests. This study conducted by Becker & Hayes, Inc. for the Association of Research Libraries is summarized as follows:

> This is the final report on a study of the use of time-sharing computer systems as a means for communication, accounting, message switching, and referral in a "System for Inter-Library Communication" (SILC). The purpose of the study was to develop data on which to evaluate the feasibility of such a system, the results are reported here in terms of four issues: (1) technical feasibility, (2) operational feasibility, (3) management

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[4]Vernon E. Palmour, Marcia C. Bellassai, Lucy M. Gray, Access to Periodical Resources: A National Plan. Prepared for the Association of Research Libraries (Rockville, Md.: Westat, Inc., February 1974).

> feasibility, and (4) economic feasibility. The evaluations are essentially positive with respect to all four issues, and the report recommends proceeding further in development and pilot test of the operation.[5]

The National Commission on Libraries and Information Science has also been exploring ways to improve information services on a national basis. In a study for the Commission prepared by Rolland E. Stevens under the sponsorship of the Association of Research Libraries, the major problems of the present interlibrary loan system were identified and the feasibility of a system of interlibrary loan centers was assessed. Stevens stated the conclusions of this study in these terms:

> It is believed that the resources of American libraries are sufficient for the estimated magnitude of interlibrary loan in future years, if interlibrary loan is better organized to ensure (1) more adequate bibliographic checking of requests before they are forwarded to a potential lending library, (2) more even distribution of requests among lending libraries, and (3) compensation to libraries which receive large numbers of requests for the extra costs of providing this service.
>
> It is recommended that a national system for interlibrary loan be established with strong central planning and coordination but a highly decentralized service program. The national system would comprise three types of centers for interlibrary loan:
>
> (a) bibliographic centers to serve an area by verifying and forwarding requests originating in its area and not completed there,
>
> (b) resource centers having strong collections in a number of subject fields to fill interlibrary loan requests which could not be filled in the local area, state, or multi-state region of the borrowing library and,
>
> (c) back-up centers to fill requests which the resource centers were unable to fill.
>
> It is recommended that the three kinds of centers named in the previous paragraph be established in existing libraries with appropriately strong collections.
>
> Lastly, it is recommended that the costs of developing and

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[5] Robert M. Hayes, Final Report on a Study of a System for Inter-Library Communication (SILC). Prepared for the Association of Research Libraries (Los Angeles: Becker and Hayes, Inc., December 1973).

maintaining this national system for interlibrary loan be the responsibility of the federal government.[6]

A further study which should be mentioned is the evaluation of a proposed interlibrary network structure for the United States now being conducted by Westat, Inc. for the National Commission on Library and Information Science. This investigation is to compare the National Periodical Resource Center strategy for lending periodicals with a full range of information needs of all types of libraries. This study has not been completed and hence is not reviewed in this paper.

ASSESSMENT OF PROPOSALS ON INTERLIBRARY COOPERATION

The investigations conducted for the Association of Research Libraries and the National Commission on Library and Information Science reported in this paper reflect current efforts to improve library services. But interlibrary lending is, of course, only one means of extending resources. Under a highly decentralized system of information service, the libraries of the U. S. have resorted to a number of methods to augment and improve the quality of their services. These efforts to share costs have involved the areas of collection development, bibliographic information, bibliographic tools, and bibliographic services among others.

In a number of instances libraries have entered agreements either informally or by contract to ensure access to resources which they were unable to acquire individually. Duke University and the University of North Carolina, and the major private libraries in Chicago, are examples of informal arrangements. The Farmington Plan sponsored by the Association of Research Libraries was an effort to extend this approach on an informal basis to a national scale. This plan has now been succeeded by the National Program for Acquisition and Cataloging at the Library of Congress.

There are numerous consortia among libraries on a local, state, or regional

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[6] Rolland E. Stevens, A Feasibility Study of Centralized and Regionalized Interlibrary Loan Centers. Prepared for the Association of Research Libraries (Washington: Association of Research Libraries, April 1973).

basis for collection development or for the provision of processing and reference services. The New York System for Interlibrary Loan (NYSILL) is one of the most extensive of the systems structured to include all types of libraries, and the New England Library Information Network (NELINET) is an example of a regional consortium of academic libraries in New England. Various state libraries have assumed leadership roles in their states to coordinate library development, undertake central services such as processing centers, union catalogs, and bibliographic services, and to establish state-wide networks, etc. New York, Illinois, Ohio and California are examples of this approach.

The Center for Research Libraries in the academic library field is an example of a regional program which became a national program. Located in Chicago, and established initially as a repository for little-used material for midwestern libraries, it has now extended membership to over one hundred academic libraries nationally and conducts an acquisitions program to obtain current materials which are important but infrequently used. It is now engaged in an experiment designed to determine whether acquisition of current journals by the Center can relieve member libraries of their responsibility to provide the same journals locally.

Experience to date suggests that the most successful efforts to augment local resources have come from the creation of new coordinating agencies or by assumption of coordinating responsibility by higher levels of government. In some instances the need is important enough to so large a group of libraries that joint action has been effective. The Association of Research Libraries with its Farmington Plan illustrates this approach. Ultimately, however, the federal government is probably the only agency with sufficient resources to effect meaningful cooperation. The National Library of Medicine is an example of a national program which effectively serves medical libraries with on-line bibliographic searching and inter-library loans. The Library of Congress has been more reluctant for one reason or another to assert a strong leadership role in coordinating library services nationally.

The deficiencies of current systems for sharing resources are well stated

by Fussler in these terms:

> With some important exceptions, existing systems of sharing resources that depend upon decentralized sharing in more or less conventional ways through lending from one library to another have not seemed overwhelmingly successful. The true costs are high, the speed is relatively slow, the location of wanted materials is often uncertain and the assurance of access, even when the location is known, is also uncertain. These factors combine to impede the kinds of intellectual and creative interaction that may occur when there is more rapid access, or the assurance of access within a specified time. The ability to browse tends to be sacrificed in most such systems, but the values associated with browsing in collections of this kind may be small in relation to the probable costs. Such benefits as may attach to browsing might also reflect, in part, deficiencies in the existing bibliographical apparatus.
>
> The direct costs of access in most of the existing decentralized systems tend to fall at present more heavily on the lender than on the borrower. The existing interlibrary loan system could clearly be strengthened by more formal contractual relationships, by more equitable cost allocations, by teletype request for needed material, by reduced red tape in loans, by faster and lower-cost photocopying (where possible), by clearing-house fiscal settlements, by the better prior verification of desired items, and by the creation of a more inclusive and current record of the holdings of all participating institutions -- with the record widely available to all potential borrowers. Not all of these conditions are likely to be met, and the adverse experience of many users with existing systems of interlibrary loan, combined with anxieties about the intellectual losses from the inability to have quick access and the opportunity to browse, have tended to inhibit the development of effective alternative systems. Furthermore, it is not unknown for an institution to attach prestige, as well as functional, values to the size of its library.
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> The present systems of decentralized access to informally shared resources thus have two major sets of defects: (1) they do not offer constructive encouragement to a participating institution to reduce its own acquisitions, with the knowledge that unpurchased materials will, in fact, be available; and (2) the reliability, costs, assurance of access, bibliographical control, and speed of the alternative systems are poor, even for materials known to be held and, theoretically, available.[7]

Fussler analyzes the sharing of resources from the point of view of the most

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[7] Herman H. Fussler, Research Libraries and Technology. A Report to the Sloan Foundation. (Chicago: University of Chicago Press, 1973).

cost-effective arrangement for the local library and concludes that centrally-held resources are the best long term approach. In summary he concludes:

> A central resource pool or pools, depending upon location, would tend to neutralize needless institutional competition in a constructive way; might be very helpful in reducing geographic and institutional inequities; could result in substantial reductions in local duplicative acquisitions; would clearly identify access and use costs; would be relatively less affected by many local changes in policies or fiscal resources; would be specifically geared to high-speed, relatively reliable service; and would moderate the growth pressures on acquisition budgets as well as the associated processing, space, and overhead costs. Such a central pool should be able to alert potential users to its resources more easily than a highly decentralized system of resources.[8]

UNRESOLVED QUESTIONS ON A NATIONAL ACCESS SYSTEM

There appears to be little question that some coordinated national approach is required in planning information systems for the future. The incentives for action may vary depending on the quality of access currently available. Some individuals would view the system as a means of maintaining current levels of access. Others would propose it as a way to improve and extend access on a more equal basis. A more systematic approach is to design a system to optimize total resources and to seek the most cost-effective access system possible. If we pursue the latter course there are a number of questions which need to be considered, and it is doubtful that there is enough information available currently to resolve them.

Some systematic and coordinated approach to collection development is required. Under any system, local autonomy must be preserved which means that some incentive is required to induce sharing of existing resources while retaining the option to provide whatever degree of local access is desired. A number of choices are possible depending upon the response of existing libraries. It does not appear feasible or desirable to replicate existing collections in the establishment of a new center or centers, hence

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[8] Ibid.

the discussion concerns the best strategy for provision of materials from a given date forward. Under these circumstances the options are: (1) comprehensive collection development for all identifiable needs, (2) the little-used materials, (3) the most heavily used, (4) serials only, (5) monographs only, (6) English language only, etc. Since the probable demand under an improved access system is not known, it is uncertain whether one national center is required or whether several centers will be needed. In the Westat study on a national periodical resource center,[9] the cost difference between one national center and ten regional centers was not dramatically different over the first ten years of operation, and the findings tended to favor one national center as the best long-term option when other non-cost items were considered. The Westat study further indicated that geography is not a significant factor in delivery time. The significant variable is demand, and since it cannot be predicted accurately, the best strategy seems to be to build a comprehensive national center. As demand increases it may be desirable to structure resources by subject or form of material to maintain performance levels. There are a number of strategies to compensate for increased demand, and it could be overly costly to follow existing political structures such as state or regional units which may not be economically viable.

Another important element in developing a national access system is the bibliographic apparatus required to identify and locate information. The concern is not only to provide bibliographic access to resources not locally held but also to minimize the duplication of effort in cataloging. It is evident that the national libraries are the only libraries having authority information adequate to produce standardized bibliographic information. Although such information may be disseminated by card or magnetic tapes to local libraries, it seems clear that in the future it will prove highly advantageous to develop catalogs on a national or regional basis. This will require standard, authoritative, bibliographic information from a single source, which again argues for strong national leadership to improve information services.

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[9] Palmour et al. Op. cit.

There are at the present time approximately 25,000 libraries of various types in the United States. About one hundred of these libraries are major research libraries. A typical library will maintain a dozen or more service points which need to access bibliographic information. Whatever standards are established for a system of bibliographic and textual access on a national basis, there will be a need to design a communication network which will be responsive to these numerous service points. Under present communication systems some hierarchical structure appears mandatory, but the communication structure should not govern the allocation of resources or bibliographic apparatus. Distance is correlated with communication costs under present arrangements but the economics seem likely to change under cable television (CATV) or satellite communication. It could be costly to let the existing communication system be the controlling variable in designing a national access system for the future.

A number of options are available for delivery of materials: United States postal service, parcel post, and Greyhound bus. Because of its size both geographically and in population, the United States seems unlikely to enjoy the more rapid response time achieved in more compact countries. Until facsimile transmission or some other technology becomes economically attractive, much of the United States will have to be content with slower delivery times. It will be interesting to see whether local libraries will continue to pay the premium for locally-owned resources, or shift to a less costly and more dependable source of information even though turn-around time is comparatively low.

A national information access system need not depend upon the participation of the federal government to become a reality, but such participation would be highly desirable. The primary objectives could be achieved in part by establishing a coordinating mechanism under a corporate structure like the Center for Research Libraries, or by contracting for services either commercially or with a not-for-profit organization. The advantage of this approach is that it could get under-way as soon as the requisite number of libraries agreed on a legal entity to foster cooperative endeavor. It would also be a more flexible and responsive organization since it would be smaller and more manageable. The disadvantage of this approach is that

it does not address all the problems. Initially the libraries gain the advantage of any special funding plus the savings from sharing operating expenditures. Since libraries have tended to go their separate ways and avoid adopting or following standard procedures, some money would need to be invested to alter procedures and change records. The later costs could be minimized, but the basic financial problem would return as operating costs caught up with whatever joint savings had been accomplished. The number or prestige of the affected libraries might have some advantage in securing additional support, but the libraries would only be buying a little time before financial problems arose again.

The argument for a larger leadership role by the federal government is that some fundamental changes can be affected in information handling procedures which can significantly reduce library operating costs and at the same time dramatically improve services to the public. The federal government affords a broad base of support which can equalize opportunity across the country and provide stable financing. Mobilizing the information resources of the country requires the authority and prestige which the federal government can provide. The national libraries and related federal agencies not only establish basic policy, such as in cataloging, but they also have the manpower and varied skills to provide needed central services. Libraries have invested little time and effort in research and development activities, but it is evident that fundamental issues can best be addressed by concerted national effort. The end result would be a comprehensive information resource more rationally allocated and accessed and offering higher quality service at lower unit costs.

SUMMARY

This paper has reviewed a series of studies sponsored by the Association of Research Libraries to determine more rational and economical methods for serving the information needs of the public. Libraries in the United States are characterized as independent agencies supported from governmental and private sources and serving a local clientele. Steadily rising costs of operation associated with population growth, increased publishing

rates, higher wages and other factors have led to reduced quality of services. Efforts to share costs through interlibrary loan and other cooperative arrangements have only partially alleviated the financial problems and have done little to improve the quality of services. The ultimate solution is seen as a more systematic national approach designed to optimize available resources in order to achieve more rationally defined goals. There remain a number of unresolved questions concerning the configuration of national resource collections, bibliographic organization and access, communication and delivery methods, and coordinating mechanisms. A strong leadership role by the federal government seems mandatory for establishing and maintaining a comprehensive, higher quality information service.

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